UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

HAMILTON COUNTY, NEBRASKA MEDICAL AID ASSOCIATION, Hamilton County, Nebraska

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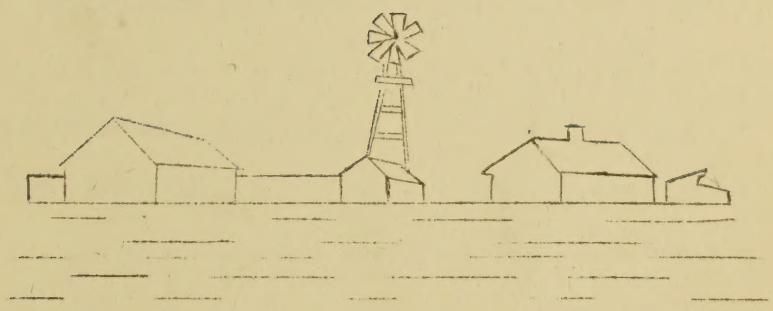
By
A. H. Anderson
Social Science Analyst



Lincoln, Nebraska
November, 1945

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ACKNOWLEDGMENTS

The author is indebted to the following people for assisting in obtaining data on which the study is based:

Bernard M. Reinmiller, County Supervisor, Farm Security Administration

Cyril Bish, County Extension Agent

Iola M. Shrout, Extension Specialist in Health Education, State Agricultural College, Lincoln, Nebraska

Lloyd C. Way, Health Specialist, Farm Security Administration, Lincoln, Nebraska

T. Wilson Longmore, Social Science Analyst, BAE, Washington, D. C. Assisted with field work and in the interpretation of data.

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INTRODUCTORY

Rural Medical Care Problems

War has aggravated the problems of rural health. War meant a heavy drain upon rural health facilities which were already inadequate in many places. Physical and mental handicaps among rural youth of military age have been more numerous than were expected. Out of this new knowledge during a national crisis has emerged widespread concern over the problems of rural health.

There is a wide gap between preventive and corrective medical science and its application. Adequate corrective steps have not been taken by most communities. Conditions revealed by the war are arousing leaders to search for practical solutions These must take into consideration the principles of the medical profession and the principles of democracy, and they must be acceptable to farm people, if progress is to be made. In view of the importance and complexity of rural health problems, national agricultural leaders recently initiated six experimental group-health programs to gain experience that would guide communities in meeting rural health needs in the postwar period. One of these experiments took the form of the, Hamilton County, (Nebraska) Medical Aid Association. In selecting the counties for the experiment the following critera were observed: 1/

1. Existence of an active County Planning Committee
2. Known local interest in medical care needs
3. Rural county must be typical
4. Farm income approximately same as in State as a whole
5. Medical, dental, and hospital facilities reasonably accessible to all farm families in county or area
6. Existence of receptive attitude on part of professional groups
7. Existence of full-time local public health unit desirable

This statement undertakes to summarize some of the socio-economic aspects of the experience in Hamilton County for the first year of the Medical Aid Association - September 1, 1942 to August 31, 1943 (the only full year of operation). It is based upon data from records of the Association, an analysis of the records of 53 member families, and interviews with officials, doctors, and other local people.

1/ Interbureau Coordinating Committee on Post-War Programs, USDA, March 1942, "Experimental Rural Health", p. 5.

To obtain information regarding the expenses incurred for medical care apart from the cooperative program, a mail survey of former members was made in March 1945, covering the 1944 calendar year. An appendix contains several tables for students who would like to analyze the data further.

Medical Facilities - Hamilton County, Nebraska

Earlier community health work. - Before the initiation of the experimental health program in Hamilton County, the FSA sponsored a group medical program which provided medical care for 120 or 130 families. Average annual cost per family was $33. The State provided a limited amount for indigent patients. Hamilton County has no full-time health department or full-time nurses.

Hospital Facilities. - Hamilton County has one hospital, located in the county-seat town of Aurora. The hospital, when the Association was operating, was a three-story frame structure with 16 beds. A larger hospital has since been equipped. Adjoining counties (Hall, York, and Adams) have larger towns, with more extensive hospital facilities. Farm families in the eastern, western, and southern parts of the county, therefore, are near the hospitals in York, Grand Island, and Hastings. Trade territories of these cities extend into Hamilton County, and many of the farm families have traditionally used the hospital facilities in these cities. The natural area of the Aurora hospital extends from an irregular line running north and south about 8 miles west of Aurora to an irregular line running north and south about 7 miles east of the town (figure 1). The old hospital in Aurora had an operating room, private rooms, and nursing and technical services. All types of minor hospital care were rendered and ordinary surgery was performed. More difficult cases were referred to larger hospitals.

Physicians. - In 1942 and 1943 there were 7 physicians in the county, 2 of whom performed surgery in addition to general practice. Four of these physicians practice in Aurora and one each in Giltner, Hampton, and Marquette. One Aurora physician operates the hospital. All physicians in the county participated in the Health Association during the period studied.

Dentists. - There were five dentists in Hamilton County during most of the period, one dentist having joined the military forces early in 1943. Four practiced in Aurora and one in Hampton.

Druggists. - The county has four drug stores with registered pharmacists. Three of these are located in Aurora and one in Hampton.

Health facilities in the county have been relatively stable, with very moderate turn-over of professional personnel. This has resulted in rather definite patterns of professional relationships and rather stable community ways.

HAMILTON COUNTY, NEBRASKA
MEDICAL AID ASSOCIATION
September 1942 - August 1943

Doctors

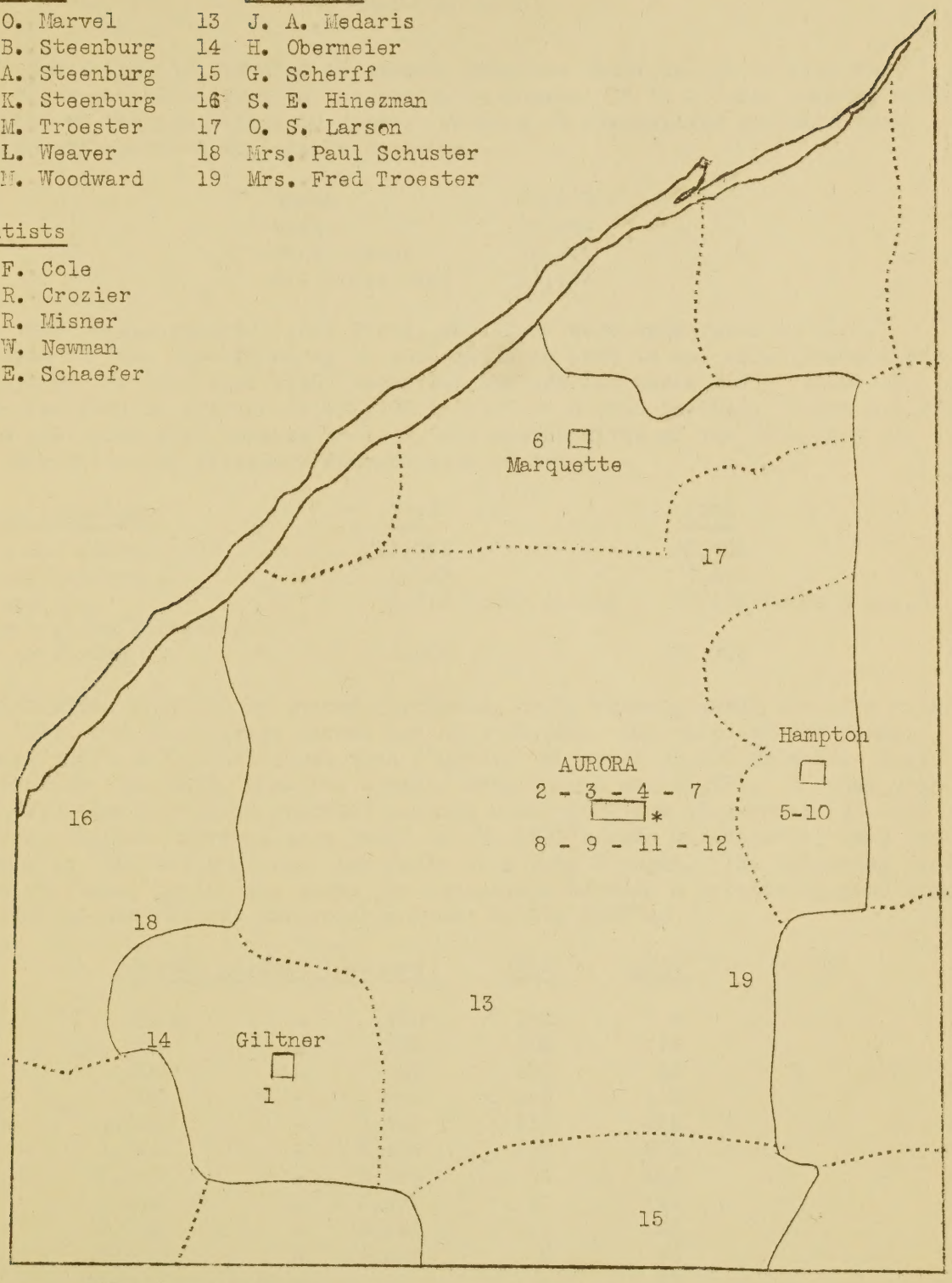
1 P. O. Marvel
2 D. B. Steenburg
3 E. A. Steenburg
4 E. K. Steenburg
5 O. M. Troester
6 R. L. Weaver
7 J. M. Woodward

Dentists

8 J. F. Cole
9 C. R. Crozier
10 E. R. Misner
11 J. W. Newman
12 J. E. Schaefer

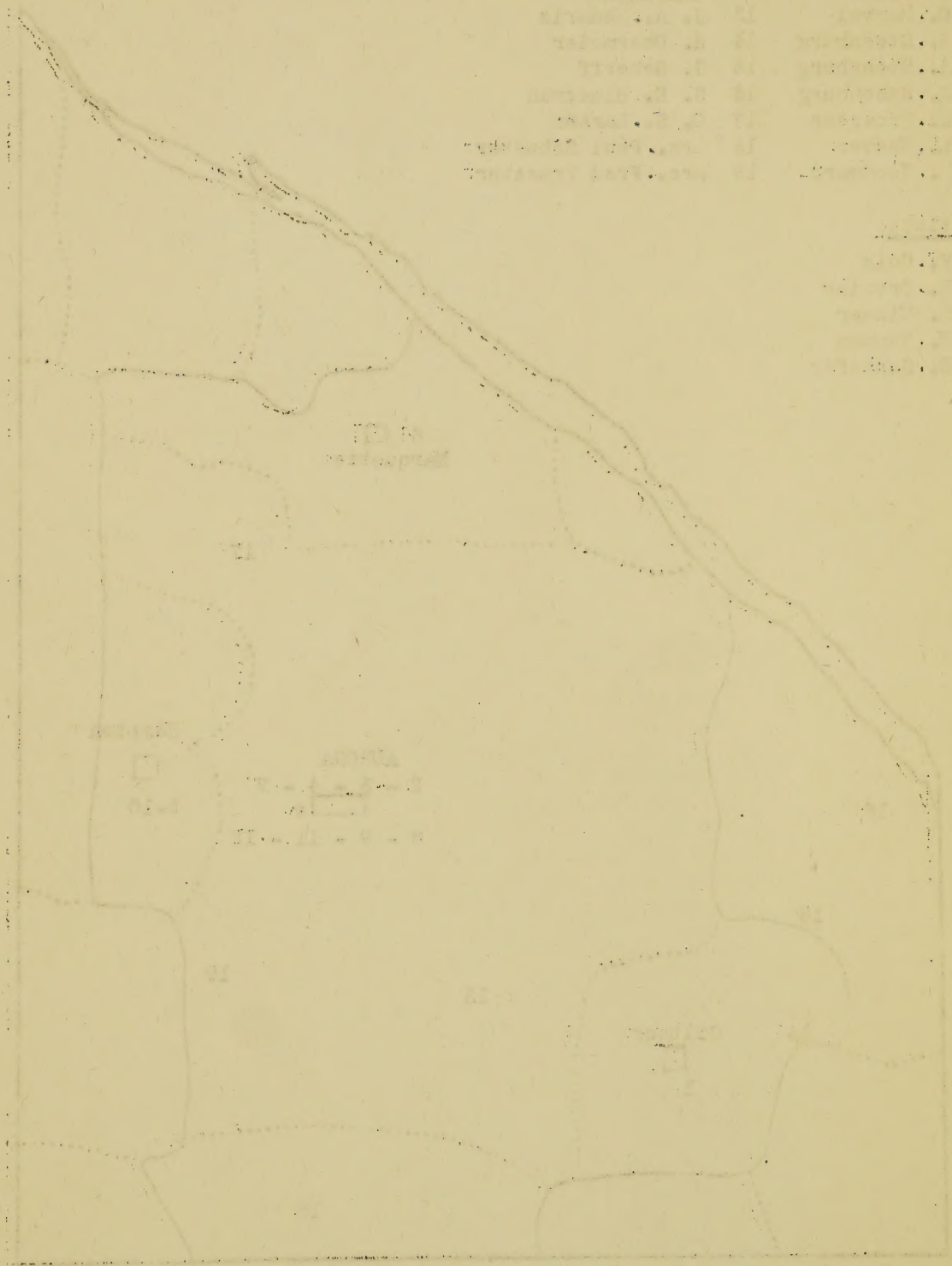
Directors

13 J. A. Medaris
14 H. Obermeier
15 G. Scherff
16 S. E. Hinezman
17 O. S. Larson
18 Mrs. Paul Schuster
19 Mrs. Fred Troester



Approximate hospital area ——
Community areas .....
Hospital *

Figure - 1 -



SOCIAL AND ECONOMIC CHARACTERISTICS OF HAMILTON COUNTY

Hamilton County is situated in eastern Nebraska about 100 miles from the Missouri River and 50 miles from the Kansas boundary. It is a rural county, with three-fifths of the population on farms. Farming is diversified and more than seven-tenths of the farm acreage is in crops.

Wheat	72,488
Corn	74,549
Other crops	70,808
All other land	35,434

The 1940 Census reports 1,623 farms, and 1,766 were enumerated in 1930. Average size of farm was 208 acres in 1940 while in 1930 it was 191. (Preliminary Census figures for 1945 show 1,487 farms and the average acres 226). Value of farms changed from an average of $20,300 in 1930 to $7,600 in 1940. Three out of five farm operators were tenants in 1940, and seven-tenths of the farm land was rented. The following livestock numbers were reported:

Type of livestock	1940	1930
Cattle and calves	17,291	21,793
Cows and heifers	8,342	7,892
Hogs and pigs	9,658 (over 4 mos.)	33,938 (over 3 mos.)
Sows and gilts farrowing or to farrow	2,866	10,793

Distribution of farms by income (products, sold, traded, used) showed a wide range in 1939, but the average income was only $1,209. One-third of the farms had incomes under $600, while less than 6 percent reported $2,500 or more. This differs sharply from 1929, when the average farm income was $3,281. In that year slightly more than 4 percent reported incomes under $600 and 45 percent reported incomes over $2,500. Several crop years in the 1930's were unfavorable, and the low incomes in 1939 followed upon the heels of a long drought. The following distribution of farms, by income, shows the comparison between a relatively good crop year and one of the several unfavorable years in the 1930's:

Income groups (dollars)	1939	1929
Under - 250	142	8
250 - 399	152	23
400 - 599	239	46
600 - 999	448	112
1,000 - 1,499	312	222
1,500 - 2,499	228	528
2,500 - 3,999	56	466
4,000 - 5,999	17	181
6,000 - 9,999	8	98
10,000 - 19,999	6	34
20,000 and over -	4	15

Average farm income in Hamilton County declined 63 percent from 1929 to 1939, while in Nebraska the decline was 48 percent.

Total population of the county declined from 12,159 in 1930 to 9,982 in 1940 - a decline of 18 percent. Rural farm population declined 20 percent in the 10-year period. From 1920 to 1940 the total population declined 25 percent in Hamilton County; decline in the rural population in Nebraska for the same period was 10 percent. Estimated Hamilton County population in November 1943 was 8,261, a decline of 17 percent since 1940.

Age composition of the total population of the county in 1930 and 1940 indicates an aging population. Broad age groups are as follows:

	1940		1930	
	No.	Pct.	No.	Pct.
Under 15 years	2,478	24.8	3,790	31.2
15 - 44 years	4,093	41.0	5,343	44.0
45 years and over	3,411	34.2	3,012	24.8

Figure 2 presents age composition in more detail indicating where, in the population pyramid, the differences are greatest.

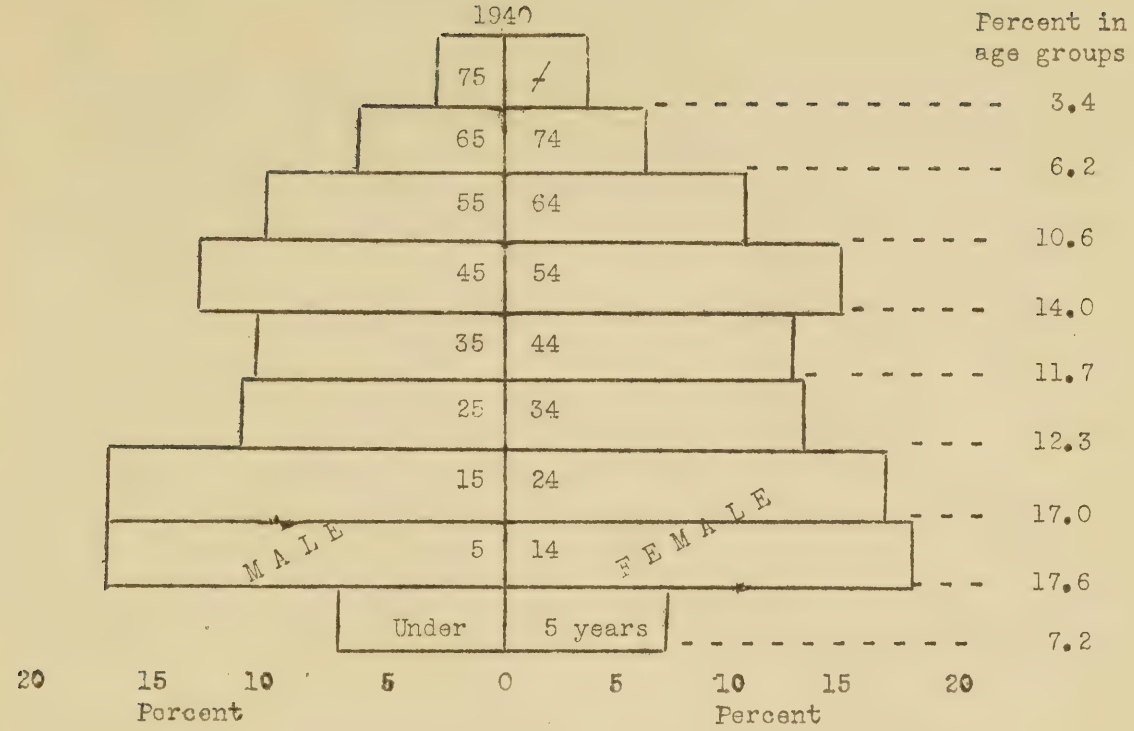
Age distribution of the 1940 rural farm population in Hamilton County differed only slightly from that of Nebraska. Percent of the population in broad age groups are as follows:

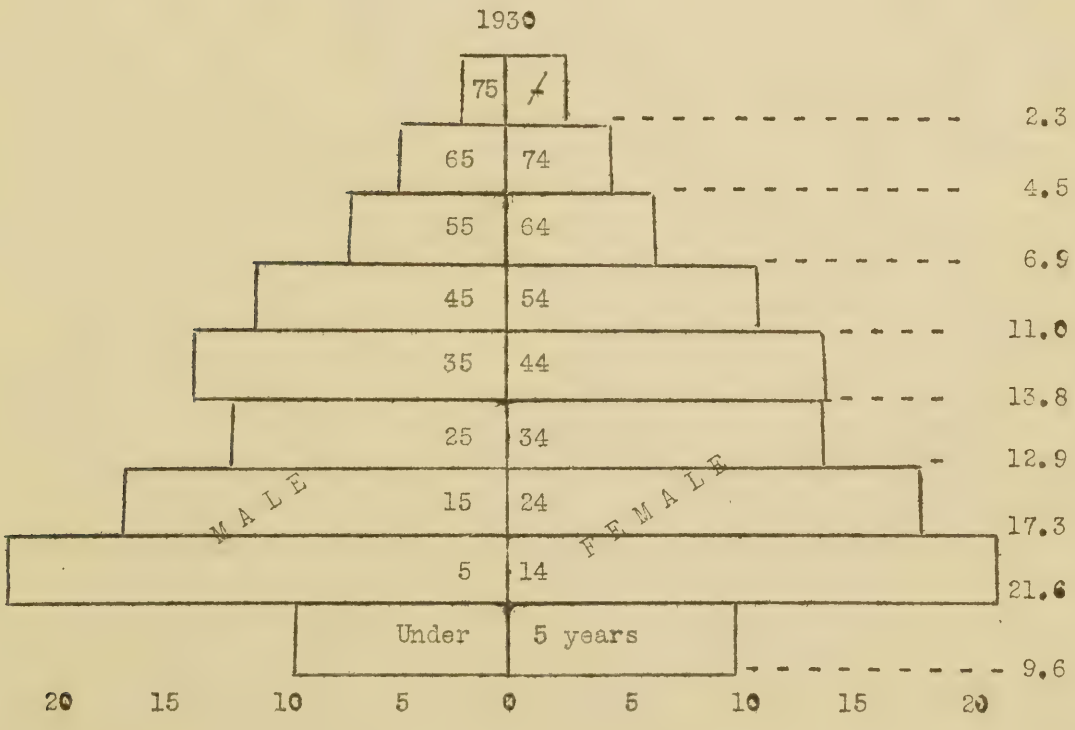
	Hamilton County	State of Nebraska
Under 15 years	26.9	28.7
15 to 44 years	43.1	45.2
45 years and over	29.9	26.1

Total population in the county, 14 years old and over, was 7,701 in 1940. Forty-six percent of these persons (3,532) were in the labor force, and 89 percent of the labor force (3,145) was employed. More than three-fifths (1,952) was employed in agriculture. Eighty-five percent of the labor force in the county were males. More than 98 percent of those actually employed in agriculture and two-thirds of those employed in other occupations were males. Seven in ten of the males and 56 percent of the females in Hamilton County, age 25 years and older, had 7 grades or less of schooling. Fifteen percent of the males and 25 percent of the females of that age group had been graduated from high school. Only 3 percent of the males in this group had been graduated from college, and about 2 percent of the females. Percentage of all rural farm persons in the age group having 8 grades or less of schooling, and percentage having been graduated from high school, are about the same in Hamilton County and in the State of Nebraska.

Slightly less than 6 percent of the population in 1940 was foreign born (583 persons). These were distributed as follows:

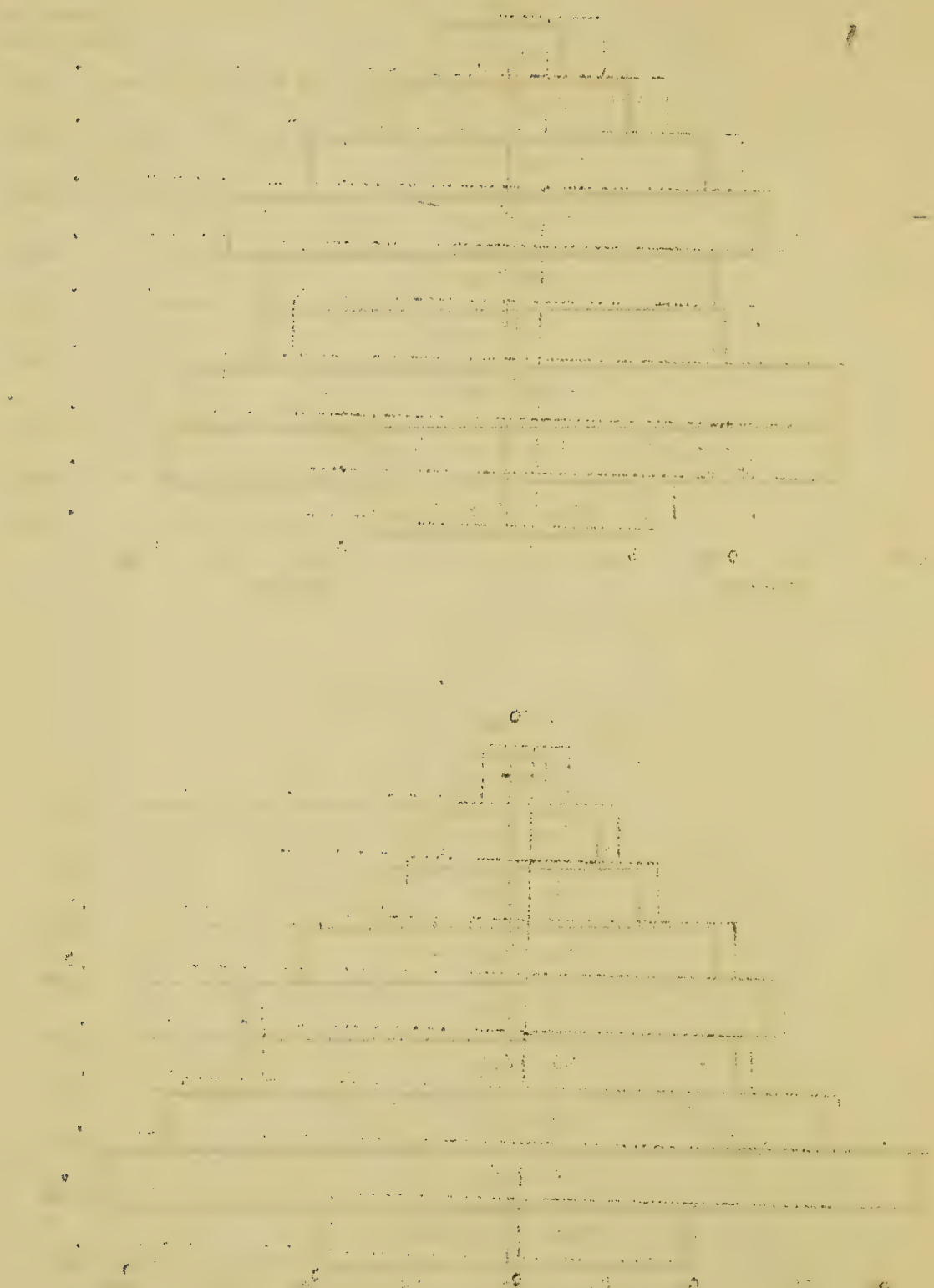
Born in Sweden	211
Born in Denmark	153
Born in Germany	107
Born in Russia	55
Born in other foreign countries	57





Age and sex composition of total population in 1940 and 1930 in Hamilton County, Nebraska

Figure - 2 -



Of the 3,267 housing units reported in 1940 357, or 11 percent were vacant. Of the 2,910 occupied units 719 needed major repairs; this is about 25 percent of the units. The State of Nebraska, by comparison, showed about 7 percent vacant, and of the occupied units 20 percent needing major repairs. Of all rural farm housing units in the county slightly more than one-third were occupied by owners, 54 percent by tenants; 12 percent were vacant.

DESCRIPTION OF THE HAMILTON COUNTY MEDICAL ASSOCIATION

History and Development of the Program

Local community leaders and personnel from the Extension Service, Agricultural Adjustment Administration, Farm Bureau, Farm Security Administration, and the Bureau of Agricultural Economics began discussions of the local rural health problems early in 1942. It was agreed that a need existed for some type of group health program to meet the medical care needs in the county more adequately. Little information was available to guide these local leaders in perfecting such an organization.

The State Planning Committee, having requested that a Nebraska county be included in the six experimental counties in the United States, appointed a subcommittee to consult with local leaders in Hamilton County. Two meetings were held, as early as January 1942, and members of the State subcommittee worked with the local people in developing the Hamilton County plan. The documents and agreements were prepared by the lay committee. At a meeting, in February 1942, an executive committee was elected, consisting of five farm people. This committee then met with the doctors to work out the details of the program, as it was to be presented to the farm people. These were consistent with the outlined procedure for the establishment of the Interbureau Experimental Medical care Program of the U. S. Department of Agriculture.

At a meeting of the Hamilton County Agricultural Planning Committee held in Aurora, Nebraska on June 10, 1942, to discuss the proposed medical care program for farm families in Hamilton County, a resolution was adopted establishing a "formal association on a non-profit basis to promote and operate an experimental medical care program". Seven members, representing the seven planning districts in the county, were elected as organizers. These persons were "authorized to adopt formal articles of association and by-laws and establish an association for the purpose of obtaining medical care for its members". The Board of Directors of the proposed association were "authorized to apply for a grant from the U.S.D.A. Farm Security Administration". It was stipulated that the proposed association would be authorized to begin operation when a total of 500 families had deposited their proportionate share of their income in the Association treasury.

Application blanks, income statements, and informational leaflets were supplied by doctors and dentists for use in signing up members in the Association. Shortly thereafter it became apparent that the program would get underway very slowly unless further assistance could be obtained. A request for assistance was made to the State Extension Service and the Regional and State office of the F.S.A.

On April 16 a field man was assigned by F. S. A. to assist the County Planning Committee and the executive committee with organization work. Methods to be used were personal contact by members of the Planning Committee, the field man, the other interested persons, and group meetings at selected points in the county. About 500 member families had been signed by September 1, 1942, and this was deemed a sufficient number to put the program in operation.

Publicity and announcements of group meetings were distributed by the county papers, by telephone line calls, and by word of mouth. The papers carried publicity to inform the rural people about the program from time to time, and the plan was explained to county commissioners, business groups, and some other organizations in the county. Considerable, though unsystematic, use was made of newspaper space for education after the program was under way. No systematic program of community group discussion of preventive and corrective medicine was developed. Members were inclined to feel that if they paid the fees and received medical and dental care, the program had been a success. More vital participation of members would result from sound educational methods. Leaders who sponsored the organization were under some pressure to qualify the Association for the federal grant before June 30. This, together with a general lack of experience with group health techniques, probably accounts for the limited emphasis on this point.

Organization, Structure and Function

Basically, the group-health program in Hamilton County is democratic. In theory at least, it provides for self-control of the program by the participating farmers. It provides protection for the prevailing standards, ethics, and practices of physicians, surgeons, and dentists, through autonomous and voluntary participation of the professions. It utilizes various types of guidance and safeguards based upon broader experience and knowledge.

Broad Features. - The program operates through an incorporated association, with a voluntary membership of farm families who were eligible to participate in the services offered. A Board of Directors, elected by the membership, had full power in the appointment and supervision of the paid executive. The Association operated under a set of by-laws which was consistent with those of reputable, unofficial, and non-profit health and welfare organizations. The stated purposes and powers of the Association were as follows:

> "The objects and purposes of this Corporation are to engage in any activity involving or relating to the securing for its members of medical, surgical and dental treatment or services, and any drugs, nursing, or hospitalization incidental, necessary or convenient thereto, and to the performing of any activity not in conflict with the laws of the State of Nebraska which will promote the health of its members, including the financing of such activities. This Corporation shall have all the powers, privileges and rights necessary or convenient for carrying out the purposes for which it was formed, or any of them."

Extensive research and utilizing the knowledge and experience of the professions, private organizations, and the Federal Government, pointed the way to the financial operation of the program. A grant of Federal funds was made to the Association, which was not a Federal Agency or subject to any political body other than reasonable guarantees assuring that funds would be used for the specific purposes of the grant, and that efficiency and integrity would be maintained.

Each member-family paid 6 percent of the family net cash income (minimum payment $10), for the health services provided by the Association. The difference between this amount and the total average cost per family of $57 was charged against the Federal grant. Families with net cash income of $950 or more were required to pay the $57 in full. Net cash income was based upon records and estimates for the year 1941. The distribution of funds, derived from family contributions and Federal subsidy (a total of $57 per family), was as follows:

	Per family
General practitioner care	$22.00
Surgical and Specialist care	6.00
Hospitalization	10.00
Drugs	5.00
Equalization fund	3.00
Dental care	7.00
Administration	4.00
	$57.00

These allotments were divided into 12 equal parts, and for all services one part was made available each month for the payment of charges for services during that month. If the funds allotted for any of the services were not adequate to make payment in full on the charges submitted for that service, all bills were proportionately reduced to bring their total within the total of the funds available in any fund.

The program was developed with the cooperation of the organized medical and dental profession. They set up their own fee schedules, which were submitted to the Board of Directors. Fee schedules were incorporated in written agreements between the professional groups and the Board. Each professional group selected its own reviewing committee, which was given authority by the directors to approve or disapprove professional bills.

Important features of the program include:

1. Free choice of doctor and dentist
2. Full cooperation and collaboration with the State Department of Health
3. Cooperation and joint planning with unofficial health and welfare agencies
4. Hospital and laboratory facilities
5. Surgical and specialist care
6. Drugs
7. Certification of the income status of participating members
8. Authority of Board of Directors to suspend or revoke membership for just cause.

Board of Directors. - The duties and powers of the Board of Directors, subject to the by-laws, included (a) to pass upon qualifications of members and cause to be issued certificates of membership, (b) to prescribe application and certificate forms, (c) to select and appoint agencies or employees and prescribe duties and compensation, (d) to borrow money and issue notes and other instruments, and to mortgage, assign, or otherwise dispose of promissory notes received from its members, (e) to prescribe, adopt, and amend rules and regulations subject to approval of the Regional Director of FSA, (f) to make regulations and enter into agreements with doctors, dentists, hospitals and other agencies, (g) to provide for annual audit of books and accounts, (h) to require all employees charged with custody of funds to give adequate bond, (i) to select one or more banks to act as depositories of Association funds, and (j) to certify physicians, dentists, and other persons as "ineligible" to serve the Association because of lack of cooperation with its policies.

The Board of Directors is composed of seven members - five men and two women. Average age is 47. All are farm people, and all were either owners or part-owners. Their farm units range from 200 acres to 480 acres, averaging 356 acres. Average contribution to the Health Association was $40, as compared with the $25 average of the 53 sample families. Thus the economic status of the directors was considerably higher than the general average of members. Generally, the board members were community leaders, active in various rural groups. Six of the directors had children and young people 9 to 21 years of age. Average size of family among the directors was 4.4.

Apparently the board was efficient in the discharge of its duties as outlined in the by-laws. These did not include community educational activities. Contacts between directors and member-families and systematic public relations activities were very limited.

Manager. - During the period covered in this study, four managers served the Association. Thus the board did not have the benefit of increasing experience and competence in that position. The importance of having a well-qualified manager, with enthusiasm for the cooperative program and with skill in public relations, cannot be overestimated. It would seem especially needed in the early years of such an association.

ANALYSIS OF MEDICAL SERVICES AND COSTS

Summary of Association Health Services, September 1942 - August 1943

A dollars- and-cents evaluation of services is, of course, a very limited treatment of this subject. But it is important to consider the various types of service in quantitative terms - cost, number of physicians calls, days of hospitalization, etc. A summary of health activities has been made, covering the period from September 1942 to August 1943, inclusive. This is presented in terms of monthly averages, and includes the entire membership of the Association. Because of the lapse of time it was found impracticable to obtain detailed factual information from members. All data were obtained from the Association records.

Average membership during the year for which data were summarized was 465 families, with 2,028 persons. An average of 380 persons received physician's care each month; five received surgical care; 78 received dental care; 17 received hospital care; 270 were supplied with drugs. The following summary gives detailed breakdowns of these health services.

HEALTH ACTIVITIES OF THE MEDICAL ASSOCIATION
September 1942 - August 1943

	Monthly Average
Member families	465
Persons in families	2,028

Physicians

	Monthly Average
Persons served	380
Home calls, day	31
Home calls, night	5
Office calls	641
Hospital calls	8
Deliveries	5
Consultations	4
Approved bills	$2,170
Amt. Paid	863
Percent paid	40

Surgeons

	Monthly Average
Tonsillectomies	9.0
Appendectomies	.8
Fractures	1.5
Gynecological	1.4
Other	16.0
Persons served	5.2
Approved bills	$392
Amount paid	238
Percent paid	59.0

Druggists

	Monthly Average
Persons served	270
Prescriptions	430
Approved bills	$297
Amt. Paid	196
Percent paid	66

Dentists

	Monthly Average
Persons served	78
Under 15 years	
Extractions	13
Peredental	2
X-Ray	8
Examination	11
Prophal	6
Past. Oper.	1
15 years and over	
Extractions	112
Peredental	8
X-Ray	33
Prophal	15
Examinations	18
Past. Oper.	4
Approved bills	$375
Amt. Paid	254
Percent paid	68

Hospitals

	Monthly Average
Persons served	17
Days	97
Operating room	10
Amt. Paid	$481
Percent paid	80

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It will be seen that an average of 19 percent of the persons in member families received physician's care, monthly. Office calls averaged more than 16 per family during the year, and home calls averaged nearly one per family (table 1).

An average of 5.2 persons received surgical care, per month, averaging $75 for each case (table 2).

Dental care was given to 78 persons per month, average value being about $5 to each person. The program made no provision for fillings or dentures, and much of the work consisted of extractions, X-rays, and examinations (table 3).

Seventeen persons received hospital care, per month, with an average value of $28 per person - a total of 97 days of hospital care, per month (table 4).

An average of 270 persons were supplied with drugs, monthly. Individual prescriptions from doctors averaged 430 per month (table 5).

Monthly figures of membership and persons served are shown in tables 6 and 7. Approved charges per family are averaged by months (table 7), they ranged from $6.38 to $9.88. The average monthly charges per member family amounted to $7.96, or a total of $95.52 for the 12 months. All approved bills totaled $44,506.74, for the year, and this was "scaled-down" to $23,186.41 (52 percent of the total). Scale-down varied by months as activity fluctuated, ranging from 42 percent to 62 percent of all approved charges. The individual types of service varied even more by months, in percentage of approved bills paid.

	Low	High
For physician's care	29%	45%
For surgeon's and specialist's care	42	100
For dental care	49	100
For hospital care	57	100
For drugs	49	96

Analysis of Association Records of 53 Sample Families, Sept. 1942 - Aug. 1943

A random sample of 10 percent of the families, in the Association from September 1, 1942 to August 31, 1943, was drawn for analysis, to bring one phase of the study down to more managable proportions. 2/ Socio-economic characteristics as well as services rendered, were included in the study. All health services provided by the association - general practice, surgery, dental care, hospital service, and drugs - are summarized by individual families. Age composition and economic status of individual families are also summarized, and relationships between services and different categories of families were studied.

2/ From an alphabetical list, one-tenth of the 532 families were selected by drawing number 1, number 11, number 21, etc.

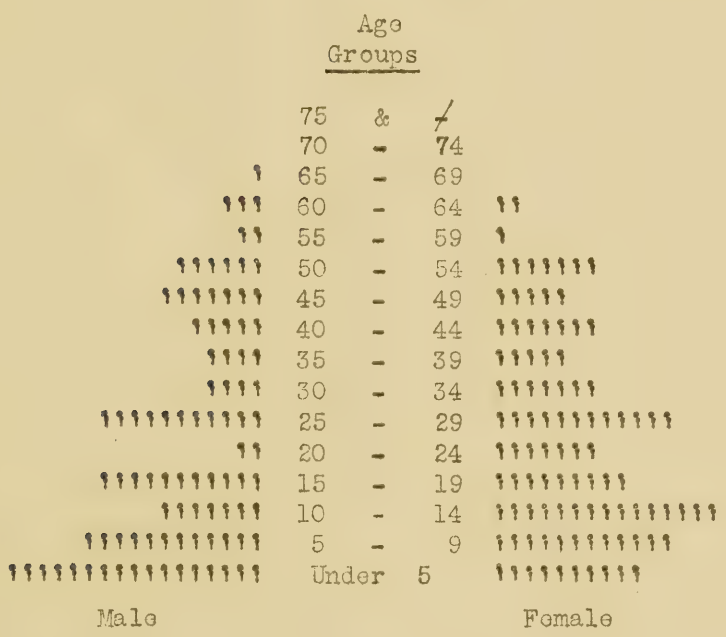
Socio-Economic Characteristics. - Households in the sample ranged in size from 2 to 8 members, with an average of 3.9 persons per household. Heads of households ranged in age from 25 to 69 (table 8). There were 202 persons in these households, and the age distribution is shown in figure 3. Because of the small number of persons in the sample detailed break-downs are erratic, but the pyramid shows the broad features of the composition of the families. Table 9 shows the age-group totals and percentages. If the sample is representative the member-families are younger than the general population (table 10).

About one-half of these families had net cash incomes of more than $350 the rest showed less than this amount or a net minus. Operators with less than 200 acres of land in their units were evenly divided between more than $350 and less than this amount. Thirty-nine of the 45 operators reporting tenure status were tenants (87 percent) and six were owners or part-owners. Tenure status of the rest was not learned. Comparing this with the distribution of all farm operators in 1940 it appears that Association membership was drawn largely from the tenant groups. (The 1940 Census showed tenants 62 percent and owners 28 percent). Eighteen of the members (35 percent) were FSA borrowers, whereas less than 10 percent of the operators in the county were FSA borrowers. Average net cash income for all sample families was $445. This suggests that low income families of the county are over-represented in the Association (table 11). Average net income per household, when converted into income per person, shows $117 per capita. Households with five or more members were well below this average, being $65 per person (table 12). Gross and net cash income appear to be closely related. This is evident as average gross income is computed in relation to net income groups, as well as when average net income is computed by gross income groups. Variations from the relationships may easily be due to chance, because of the limited number in individual categories (table 13).

Health Services. - The total of approved bills for all health service to the 53 sample families amounted to $4,554 - an average of $85.92. Adding the $4 set aside for administrative cost this approximates $90 per family. The most important service from the standpoint of number of families served and percentage of total of approved bills, was general practitioner service. Eighty-seven percent of the families in the sample received such service, and 63 percent of the total amount of bills is classified under general practice. From the standpoint of number of families receiving service the other types of care, in the order of number of families involved, are: drugs (77 percent), dental care (55 percent), hospital care (30 percent), and surgery (7.5 percent), Figure 4. From the standpoint of percentage of total amount of bills approved, the other types of care, in the order of book value, are hospital care (13 percent), dental care and drugs (8.4 percent each) and surgery (7.2 percent). It should be noted, however, that approved bills to the Association were scaled-down, to equal the monthly allotment for each type of service. The scale-down varied from month to month according to the degree of activity, and percentage of approved bills paid by the Association was averaged for the 12 months. The average is shown by individual type of medical service as listed:

General practice	averaged	40 percent
Surgical practice	averaged	59 percent
Dental care	averaged	66 percent
Hospital care	averaged	80 percent
Drugs	averaged	66 percent

Age composition of 53 families, Hamilton County, Nebraska 1/



1/ Does not include eleven persons, age unknown.

Figure -3-

Percentage of Member Families (53) Receiving Each of Five Services

Percent of Families

Type of Service		
General Practice	86.8%	
Surgery	7.5%	
Hospital Care	30.2%	
Dental Care	54.7%	
Drugs	77.4%	

Percent of Total Approved Bills ($4,554) for Five Types of Health Service to 53 Member Families

Percent of Total

Type of Service		
General Practice	62.9%	
Surgery	7.2%	
Hospital Care	12.9%	
Dental Care	8.4%	
Drugs	8.4%	

Figure -4-

Thus the actual average cost per family of the health services to the Association was $57 rather than the $90 shown above. From the standpoint of the insurance principle, both of these averages may have significance.

Forty-nine of the 53 sample families received some type of health service through the Association program during the year studied, and 42 of these received more than their contribution to the Association. The approved bills for service to the 49 families averaged nearly $93. Four families (7.5 percent) received no service; 10 (19 percent) received less than $30, and 23 (43 percent) received more than $75 in service (table 14).

Average contribution to the program by member families was $25.28, ranging from the minimum of $10 to the maximum of $57. Distribution of the families by amount of contribution to the program indicates the broad net cash income groups in the sample of 53 families. Thirty-eight, or 72 percent, of the families contributed less than $31. This means that 7 in 10 had less than $500 of net cash income. Twenty-five, or 47 percent paid less than $21 - indicating a net cash income of less than $350. There is some evidence that accumulated medical-care needs were concentrated, somewhat among the lowest income families (table 15). The exceptionally high average in the last group ($51 - $57) is accounted for by two expensive cases included in this group of 6.

Health service in the form of general practitioner care averaged $54 for all families (table 16). Ten families received more than $100 in service and 12 received less than $26. The 24 families in the two lower income groups show higher-than-average cost for this type of care. Surgical care averaged $6 for all families (table 17), hospital care averaged $11 (table 18), dental service and drugs each averaged $7 (tables 19, 20). The 21 families in the two lower income groups show higher-than-average cost for drugs. Number of families receiving different types of care was as follows: general practice 46, surgery 4, hospital 16, dental 29, and drugs 41.

When the average scale-down for the different services to all member families is applied to the sample families receiving care, the actual payment for service averaged as follows: (for convenience it is compared directly with average value of approved bills).

Type of Service	Families	Average scaled-down cost in dollars	Average value in dollars
General practice	46	$24.92	$62.30
Surgery	4	44.38	82.20
Hospital	16	25.33	36.88
Dentist	29	10.64	13.34
Drugs	41	6.16	9.34
All services	53	$56.71	$86.00

Medical Care and Costs in 1944

It was thought advisable to get information about medical care experience of these families before the organization of the Hamilton County Medical Aid Association. This proved to be impracticable because of the lapse of time and the unreliability of memory. The calendar year 1944 was thought sufficiently recent, at the time of the study, to promise greater accuracy.

How much was spent for medical care, by these families in 1944? To obtain a picture of the costs of medical care, a survey was made of a group of former members of the Hamilton County Medical Aid Association, in March 1945. This mail survey was conducted by the Farm Security Administration. A simple but carefully prepared questionnaire was returned by 29 percent of those receiving it (see appendix). Of the 127 families responding 98 percent had incurred expenses for medical care during the year. Average expense incurred for health services was $125 per family (total $15,880) or $31 per person. The following is a brief summary of the different types of medical care:

	Av. Cost 127 families	Pct. families Incurring expense	Pct. distribution of cost
Gen. doctor's care	$ 41.11	87	33
Major operations	25.86	18	21
Hospital care	18.56	26	15
Dental care	24.30	76	19
Drugs	14.58	83	12
All types	125.04	98	100

A few families reporting no medical care responded by returning the questionnaire, but others may have made no return because they had no medical costs. A substantial number of the returned questionnaires show low medical costs, but there may be an over representation of families with high costs. Costs of medical care reported for 1944 by the 127 respondents are higher than average book value of care to Association members, September 1942 to August 1943 - $125 and $96 respectively. Whether "selection" on the one hand or increased farm income accounts for the difference, cannot be learned from these data. Distribution by broad "cost" groups is as follows:

	Families included in 127 mail reports (1944 costs)	Families included in random sample of 53 (Med. care 9/42 - 8/43)
Medical care less than $30	36%	19%
$30 to $74	22	38
$75 or more	42	43

A similar comparison may be made of age composition and size of family in these two groups, as an aid in evaluating the mail-survey responses. It should be noted, of course, that similar social characteristics would not in themselves assure identical medical care experience.

	Families included in 127 mail reports (1944)	Families included in random sample of 53 (Sept. 1942 - Aug. 1943)
Age Composition		
0 - 12	30.4%	34.2%
13 - 21	17.5	17.3
22 - 50	33.5	38.9
51 and over	18.4	9.5
Size of Family		
2 or less	25.7%	16.0%
3 or 4	41.4	56.6
5 or more	32.1	27.4

According to the data furnished by the 127 families, medical care costs more for older members of the family. The broad age groups account for the following proportions of the total expenses incurred for medical care to the 514 persons in the 127 families.

Age Groups	Pct. of Expenditures	Pct. of Persons
0 - 12	15.5	36.0
13 - 21	12.3	18.5
22 - 50	43.2	33.5
51 and over	28.8	12.1

A larger study of costs of medical care in 1944 was conducted by the F.S.A. in the Dakotas, Kansas, and Nebraska. Tabulation of 551 responses in Nebraska show average costs per family of $111 and per capita costs of $24.40. The 2,261 responses in the four States of the region show similar average costs per family and per capita. These responses represent 52 percent of all mail questionnaires distributed early in 1945, to active standard borrowers in selected counties in each State. The somewhat lower average cost indicated in this survey as compared with the Hamilton County study of former members of the Medical Aid Association may reflect the difference in average income of the two groups. Members of the Hamilton County Medical Aid Association were not all FSA borrowers.

LOCAL ATTITUDES AND BEHAVIOR PATTERNS

Members of the Association

Knowledge of objectives and participation. - As the form of voluntary association entered into here is essentially that of a cooperative, it is important to learn how well the members understood what was being undertaken. Moreover, it is necessary to analyze, as far as possible, their attitudes toward the program. Interest is largely a question of knowledge, and the success of such a cooperative enterprise depends mainly upon the intelligent participation of members. An effort was made to obtain a cross section of the attitude and judgment of former members

(see appendix). Only a small proportion of the interviewed members showed a clear knowledge of the objectives of the program, but a majority seemed to have a fair understanding of its broad purposes. Concepts of mutual aid and cooperation are reflected in the statements. About one-half of the families said that the purpose of the program was to "provide equal medical care to all"; one-fifth thought of the program in terms of lower-cost medical care, and as many others in terms of insurance. About 4 in 10 families said that the program was operated by the directors or the manager. Others were not clear, or understood that the program was run by the doctors or by the county agent. Some of the earlier promotional meetings were called by the county agent. Forty-percent attended no meetings, and nearly half had attended from one to six meetings. Others reported their attendance in general terms as: Few, all, most, many. Strictly educational meetings were not held and most of the meetings attended were held in connection with the development of the program. Periodical letters were sent to members, but no information was gleaned from these families regarding them. There was apparently no general recognition, among members, of responsibility for the program. Most of them said they had sufficient voice in running the association or expressed no opinion. The general idea of the member's place in the program was to pay the dues prescribed and call their doctor when sickness came, or visit his office. Two-thirds said they had had no part in developing the program.

Leadership and Service Area in Health Care. - A sample survey of members indicates the influence of the local doctors. Seven out of 25 members were persuaded to join by their family physician. Very few changed doctors after joining, indicating a high degree of loyalty to the family doctor. Thus the traditional leaders in matters of health have been the local practitioners. An important part has also been played by the dentist and the druggist. In recent years the public schools, F.S.A. and the Extension Service have taken a progressively greater part in health education. One-third of the families reporting on their hospital center before joining the Association named hospitals outside of the county. More than 25 percent reported that they had never had occasion to use a hospital before joining the Association.

Opinions of Members in Regard to Health Services. - Most members reported general satisfaction with the services. Answers to several questions indicate members feel that the money paid in as dues is a good investment. Some constructive criticism was offered but the most common attitude was that they would join again if given opportunity. There were few criticisms of the degree of promptness of the service. Generally the quality of service was said to have been the same as before. Most members, however, said that they received more care under the prepayment plan. Nearly all received all the care they expected, during the first year, and 6 in the 10 said that they had experienced no difficulty in securing needed medical care while in the program.

Opinions of Members in Regard to Adequacy of the Program. - About one-half of the families reporting merely expressed satisfaction with the program. Others offered useful suggestions for improvement of certain features. Several members would like more complete services. Specifically they suggested, unrestricted detal care, broader availability of surgical and specialist care, and more adequate local hospital facilities. On the question of adequacy of the program,

however, responses ranged from such statements as "limitations were mutually agreeable, to make cost as low as possible", to "O.K. except for limitations on dental care";"even if cost must be increased a little we would like dental care", and "hospital care should not be limited to the Aurora hospital and surgeon".

Eight in ten members thought that the membership of the Association should have included more people. Responses indicate little thoughtful evaluation of risk and cooperative factors, but a few responses showed some analysis. For example, one respondent suggested enlargement of "membership and territory with more doctors and hospitals" taking part. Another said, "Yes, if the doctors could have taken care of it. People receive more care under prepayment".

Some members suggested curtailment of services, a typical response being "should have cut down amount of services and paid the doctors in full. People overdid the program". On the other hand, many said, in effect, "there should have been full services for any family that needed them and not just what the doctors want to give".

Although 3 in 10 expressed satisfaction with the method of financing and with the basis of figuring dues and paying for services, there was evidently some confusion of thought. Lack of definite opinion or seeming indifference suggested that members generally may not have understood the principle of cooperative action or insurance that was involved. A few members expressed themselves in favor of basing dues upon number of persons in the family or upon a combination of income and size of family. It was not clear, in the latter case, whether or not the idea was a social one of providing favorable terms for larger families. As an indication of the interest of some members, directors cite the attitude of several persons when refunds were made, of 6 month's dues, at the time the program was terminated in 1944. A member said, "I would rather pay $100 than accept this check", and a few others make similar remarks.

Directors of Association

The directors had a better opportunity to observe and analyze the functioning of the Association than did the members. Because of their interest in the success of the program and their experience with its practical problems they are perhaps able to evaluate some of the features more objectively.

Coverage. - Membership was confined mainly to low income families during the first year. Theoretically the program was available to all agricultural people in the county, but actually it was limited by the attitudes of local people and physicians. Directors feel that membership should have been 1,000 or more families instead of 500. Some members of the Board believe the Association should have been open to all people in the county.

Risk. - The Association was considered, by the directors to have been selective of high-risk families, during its operation. Both professional and lay people thought that members "ran the program to death". Directors realized, however, that medical-care needs had accumulated during the depression and the drought, and that this was especially true among low-income families.

Quality of Care - Directors think that standards of medical care were maintained equal to those prevailing before the program was started. They agree that more and earlier care was given and this indicates an actual improvement of health standards.

Area Covered. - The Association confined its operation to the facilities and professional personnel in Hamilton County, though doctors accepted members who lived outside the county. Directors believe that members should have complete freedom of choice among hospitals and doctors, irrespective of county boundries.

Financing. - The fee schedule, based upon 6 percent of family's net cash income the previous year, must be supplemented from other sources in bad years only. Directors believe the program could have been self-supporting or nearly so, after farm income increased, as in 1943 and 1944. This,would assume broad coverage, of course. Some members of the Board feel that it was an error to set up the program for only 1 year. In their view it would require a 5-year period to give the Association a fair chance. Directors recognize that the methods of paying doctors is a technical subject, but they believe that the inducement to medical personnel would be progressively stronger each year.

Preventive Work. - The county had no public health department and the Association had no systematic program of preventive medicine. Directors said that the county had made some effort to bring in a public-health nurse but had not been successful. They did not understand that the cooperative program contemplated preventive medicine.

Education. - A process of health education was set in motion with the functioning of the Medical Aid Association. Informal discussions of rural-health problems and prepayment plans has developed an awareness of need for better medical care. There was no formal program of education but directors and other local leaders frequently discussed health care. Although the program of the Association included no specific educational activity, the Board members agree that educational work is important.

Community Participation. - The directors did not think that the communities of the county were well informed about the Association, its objectives, and program. Doctors and some laymen looked upon it as a subsidized low-income program for a small part of the county's population. Some members, on the other hand, did not consider it as such but rather as a method of more systematic and economical health care for all families.

Interest of Directors. - These local people gave a great deal of time to Board meetings for the discussion of administrative details. They felt responsible for the success of the program and made a great effort to maintain it the second year. On the basis of the experience of the first year they undertook to adjust the program and correct its weaknesses. Much time, deliberation, and compromise were required.

Professional Personnel

Most of the doctors thought the program was too broad - that specified services could not be provided for $57. They believe that the members abused the program, and that the doctors should have had more control. The traditional leaders in health - the doctors and dentists - take the view that the culture depends upon its leaders to guard its accepted values. Traditional ways of medical-care are regarded by them as a basic part of the ways of the people. Most of the doctors believe that the practitioner should be free to charge according to ability to pay, and that a prepayment plan should include only low-income families. In an area of highly variable farm income the size of this group would fluctuate sharply from year to year, of course, and such a program could not be stabilized on a self-supporting basis. Thus it is hard to see how this concept could be reconciled with the cooperative insurance principle.

Some of the practitioners favored free choice of specialists and hospitals, but went along with the restricted program the first year, despite the traditional use of facilities outside the county. Other local doctors, on the other hand, were unwilling to take part in a program that included specialists and hospitals outside the county.

INTERPRETATION AND APPRAISAL

General. - Good medical care cannot be defined in absolute terms. It is relative to the social, cultural, and scientific development of the community. It is the kind of medicine practiced and taught by recognized leaders of the medical profession, in a given time and place. Details of technique find no place in such a definition, but the broad outlines of good medical care have been outlined by Lee and Jones 3/. Good medical care, the authors state:

Is limited to the practice of rational medicine based on the medical sciences.

Emphasizes prevention.

Requires intelligent cooperation between the lay public and the practitioners of scientific medicine.

Treats the individual as a whole.

Maintains a close and continuing personal relation between physician and patient.

Is coordinated with social welfare work.

Implies the application of all the necessary services of modern, scientific medicine to the needs of all the people.

3/ "The Fundamentals of Good Medical Care, Roger I. Lee and Lewis W. Jones January 1933.

A map showing the trade areas in Hamilton County and the hospital-service area of Aurora indicates that this county is not a self-contained unit (figure 1). This assumption is supported by the statements of many local families regarding their own customary dependence upon professional personnel and hospital facilities outside the county. No evidence was found in the Hamilton County Medical Aid program that adequate analysis was made of the situation in terms of the hospital-service area and the relationship of the Aurora hospital and local practitioners to other facilities and specialists.

Apparently no educational work was done with professional personnel when the program was initiated. In other words, there was no common agreement on the objectives of the program. Private interests and views of the professional men were sometimes in conflict, and traditional concepts of medical care were not fully reconciled with the cooperative and social objectives of the program.

The program was set up without adequate study of the local needs for medical care. A long period of low farm income had resulted in an accumulation of needs for corrective and curative treatment. The volume of needed medical care, especially to lower income families who predominated in the membership, was unexpectedly high.

There was no provision for educational work among the members. Such a program, to progressively raise health standards and increase the understanding of cooperative methods, would have provided a basis for a growing stability of the program. The communities (trade areas) within the county, with their local leadership and loyalties, are the logical units to use in such a program. Its success would depend upon whole hearted participation of the professional people, the directors, the members, and local agencies.

The county had no public-health nurse, and preventive medicine had scant attention. Thus the public was not made sufficiently health conscious. Wholehearted support by a local public-health nurse and the organizations and agencies in the county would have helped greatly in establishing a favorable climate for the cooperative health program.

The coverage provided by the program was limited, from the standpoint of the families participating and from the standpoint of the services provided for. Nonfarm families in the county (38 percent of the population), were not eligible but only one-third of the farm families joined the Association. This was too small a group. Moreover, it was an abnormal group for the program in that it was made up of high-risk families. The age composition of the member families, in itself, indicates that this was the case. Partly because the local people thought of the program as especially designed for low-income families, the younger and larger families predominated in the membership. More tenants joined the Association than owners. Some doctors discouraged the families of higher income status from joining in the group plan.

Services provided by the program were limited. For example, dental care was limited to emergency treatment and no provision was made for fillings, inlays, or dentures, except for temporary fillings for children. Most of the dental work consisted of extractions and X-Rays.

Moreover, surgery requiring specialists care or treatment requiring complex laboratory techniques which were not available within the county, were not included. Apparently some surgical care was obtained outside the bounds of the Association, by members, or was postponed because of the restriction of Association services to local surgeons (See figure 4, and page 16). According to available data, limitations on dental care also served to divert or defer such care.

Ideal standards of medical care, also outlined in the Fundamentals of Good Medical Care, permit quantative evaluation of personnel and facilities in Hamilton County. These estimates of standard requirements may be compared with the actucal medical-care resources in the county. The Association program was based upon fee-for-service, the same personnel and hospital facilities serving both members and non-members. Out of a total population of about 8,261 in the county 4/, an average of 2,028 persons were included in member families.

Physicians. - It is estimated that adequate medical care (including prevention, diagnosis, and treatment) requires a ratio of 1 physician to about every 700 persons. On this basis, the 2,028 persons in member families require the services of about 2.9 physicians. Relating the total estimated population of the county to the resident physician (7 in number), shows 1 doctor to 1,170 persons. It is known, however, that doctors in Hamilton County and adjoining counties actually work without reference to the county lines. Moreover, some doctors are older practitioners, and all are not equally able to give full-time service to their communities. It is estimated that the county had only 5, or at most 6, effective doctors, because of the advanced age of some of the practitioners.

It has been estimated 5/ that throughout the U. S. the average number of persons per physician in 1944 was 1,500. If this minimum standard is used, Hamilton County ranks with or somewhat above the Nation in terms of number of doctors. Regarded from the standpoint of well-trained specialists many specialities are not represented in the county but some are available in larger towns and cities of the area.

Dentists. - It is estimated that a group of 2,028 persons would require the full service of 2 dentists. The entire population of the county would require 8 dentists, instead of the 5 resident dentists in 1943. Instead of 1 dentist per thousand population the county has 1 dentist for each 1,650 persons. From an ideal standpoint, three dental hygenists would be required. At least 1 X-Ray technician and 1 dental laboratory technician, would be needed. Thus the county does not have adequate dental facilities, according to the standards of the profession. Dentists outside the county serve many Hamilton County people.

4/ U. S. Census Bureau estimates, as of November 1943.

5/ Public Health Reports, Vol. 58, No. 42, October 14, 1943.

Hospitalization. - It is estimated that an average population requires 1.4 general hospital days annually per person. Assuming an average 80 percent occupancy, such care would require about 38 hospital beds for Hamilton County. The county had 16 beds -- less than half of the standard requirement. On the basis of the average standard requirement, the 2,028 association members and dependents would need more than one-half of the hospital beds now available in the county. 6/

Nurses. - Ideal standard requirements for home-nursing service is 1 nurse to 3,000 persons. Thus 2 or 3 full-time graduate nurses would be required for this service to the 8,261 population in the county. For hospital nursing, 1 full-time nurse to every 4 beds is standard, and the hospital of 16 beds would thus need 4 graduate nurses. Two graduate nurses were employed by the hospital, and no home nursing service was provided by the county or the Association.

Other Services. - Modern medical care utilizes numerous scientific means requiring high technical competence and complex equipment. Laboratory procedures and X-Ray are used for diagnosis and treatment and for physical theraphy, and these require modern equipment and highly trained personnel. Although medical-care resources in Hamilton County compare favorably with many areas of the Great Plains, it is apparent that community cooperation can go further in safe-guarding the health of the people.

6/ Since the Medical Aid Association was terminated, a larger and better hospital has been equipped. It has 25 adult beds, 6 children's beds, and 7 bassinetts.

APPENDIX

Table 1. - Volume of medical services of the Hamilton County Medical Association
September 1942 - August 1943

Physicians' care

	Sept.	Oct.	Nov.	Dec.	Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Monthly Average
No. of families	396	449	457	463	468	477	477	477	477	478	478	478	465
No. of persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2078	2028
Total persons served	263	358	340	500	368	361	381	422	377	385	360	448	380
New cases	246	280	274	308	168	271	288	332	280	280	261	338	277
Home calls-day	2	28	32	19	35	34	74	43	32	29	21	27	31
Home calls-night	-	11	2	5	3	6	11	2	7	4	-	3	45
Office calls	419	553	577	680	618	607	685	726	666	633	756	775	641
Miles traveled	25	270	276	163	350	302	371	228	354	229	98	105	231
Hospital calls	19	29	14	16	-	4	-	1	6	1	-	6	8
Deliveries	3	7	5	7	5	5	8	3	6	3	3	4	49
Consultations	-	24	6	13	-	1	-	-	-	-	-	-	3.7
Other	-	-	-	-	-	6	-	28	-	-	-	-	.5
App'd bills	$1619	$2098	1715	$2075	$1951	$2219	$2290	$2084	$2118	$2577	$2209	$3078	$2169
Amt. Paid	726	832	849	861	870	887	887	886	887	887	887	897	863
Percent paid	45	39	49	41	44	40	39	42	42	34	40	29	39.8

Table 2. - Volume of medical services of the Hamilton County Medical Aid Association
September 1942 - August 1943

Surgeons and specialists care

	1942				1943								
	Sept.	Oct.	Nov.	Dec.	Jan.	Febr	Mar	Apr.	May	June	July	Aug.	Monthly Average
No. of families	396	449	457	463	468	477	477	477	477	478	478	478	465
No. of persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2079	2028
Total persons served	2	5	5	6	11	4	3	4	7	6	4	6	5.2
New cases	-	-	-	-	8	4	3	4	7	6	4	6	3.4
Non-surgical	-	-	-	-	-	-	-	-	-	-	-	-	-
Refractions	-	-	-	-	-	-	-	-	-	-	-	-	-
Ear-Nose-Throat	-	-	-	-	3	1	-	6	4	-	-	-	.8
X-Ray	-	-	-	-	8	5	5	8	3	4	10	5	4.
Other	-	-	-	-	2	-	-	8	-	-	-	-	.8
Surgical	-	-	-	-	-	-	-	-	-	-	-	-	-
Tonsilectomies	-	-	-	-	6	8	7	4	6	31	9	38	9.1
Appendectomies	-	-	1	2	2	-	2	1	2	-	-	-	.8
Fractures	-	-	-	-	3	5	4	1	5	-	-	-	1.5
Other injuries	-	-	-	-	-	-	-	-	-	-	-	-	-
Gynecological	-	-	-	-	5	2	-	1	3	2	2	2	1.4
Other	2	5	4	4	18	16	19	40	18	18	23	25	16.
App'd bills	$170	$350	$440	$560	$608	$356	$248	$330	$551	$405	$320	$370	$392
Amt. Paid	$170	$227	$232	$235	$232	$241	$242	$242	$242	$242	$242	$242	$233
Percent paid	100	64	52	42	39	68	98	73	44	60	76	65	59

Table 3. - Volume of medical services of the Hamilton County Medical Aid Association
September 1942 - August 1943

Dental care

	1942 Sept.	Oct.	Nov.	Dec.	1943 Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Monthly Average
No. Families	396	449	457	463	468	477	477	477	477	478	478	478	465
No. persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2079	2028
Total persons served	59	111	88	98	97	61	88	62	43	66	32	130	77.9
New cases	59	86	82	81	74	46	64	41	28	37	27	123	62.3
Under 15 years													
Extractions	5	31	16	16	11	17	20	5	12	12	10	-	12.9
Peridontal	-	3	1	-	-	1	4	1	-	3	2	5	1.7
X-Ray	9	24	11	-	20	9	2	13	6	6	-	-	8.3
Examinations	11	37	-	-	14	12	12	10	7	7	9	16	11.2
Prophal	-	-	-	-	16	7	12	5	2	3	5	16	5.5
Post. Oper.	-	-	-	4	3	-	-	1	-	-	-	-	.7
15 years & older													
Extractions	60	94	99	150	183	150	181	63	38	171	29	128	112
Peridental	1	13	4	9	3	5	6	8	5	9	2	25	7.5
X-Ray	29	36	35	72	40	20	28	27	22	24	9	49	32.6
Examinations	-	54	-	-	26	16	16	19	10	10	9	59	18.2
Prophal	42	-	-	-	26	14	18	14	9	7	8	46	15.3
Post. Oper.	5	6	10	-	2	-	-	2	2	-	1	21	4.1
App'd. Bills	$283	$498	$410	$518	$511	$319	$417	$266	$207	$370	$128	$578	$375
Amt. Paid	231	265	270	274	277	282	282	266	207	282	128	282	254
Percent paid	82	53	66	53	54	88	68	100	100	76	100	49	68

Table 4. - Volume of Medical services of the Hamilton County Medical Aid Association
September 1942 - August 1943

Hospital care

	1942 Sept.	Oct.	Nov.	Dec.	1943 Jan.	Febr.	Mar.	Apr.	May	June	July	Aug	Monthly Average
No. families	396	449	457	463	468	477	477	477	477	478	478	478	465
No. persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2079	2028
Total persons served	13	20	14	20	13	14	16	14	11	28	14	23	16.7
New admissions	13	20	14	20	9	14	16	14	11	28	14	23	16.3
Total days	62	82	96	151	113	97	118	95	81	103	81	89	97.3
Anethesia	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating room	7	12	6	11	9	9	7	8	6	16	10	18	9.9
Delivery room	-	-	-	-	-	-	-	-	-	-	-	-	-
Laboratory	-	-	-	-	-	-	-	-	-	-	-	-	-
App'd bills	$285	$385	$430	$681	$586	$519	$579	$473	$382	$561	$407	$403	$481
Am't. Paid	285	378	386	391	395	402	402	402	382	403	403	403	386
Percent paid	100	98	89	57	67	77	70	85	100	72	99	83	80

Table 5. - Volume of medical services of the Hamilton County Medical Aid Association
September 1942 - August 1943

Drugs

	1942				1943								
	Sept.	Oct.	Nov.	Dec.	Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Monthly Average
No. families	396	449	457	463	468	477	477	477	477	478	478	478	465
No. persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2079	2028
Total persons served	134	293	378	302	333	327	238	325	262	248	232	268	270
Total Prescriptions	215	463	423	505	502	472	457	529	418	377	354	443	430
App'd bills	$169	$381	$314	350	$313	$290	$335	$325	$280	$259	$251	$294	$297
Amt. Paid	165	189	193	195	198	201	201	201	201	201	201	201	196
Percent paid	96	49	61	56	63	69	60	62	72	78	80	69	66

Table 6. - Types of medical services of the Hamilton County Medical Aid Association
September 1942 - August 1943

Types of Service	1942 Sept.	Oct.	Nov.	Dec.	1943 Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Monthly Average
No. of persons	1756	1965	2000	2028	2045	2076	2076	2076	2076	2079	2079	2079	2028
Physicians care													
Persons served	263	358	340	500	368	316	381	422	377	385	360	448	380
Percent served	15	18	17	24	17	17	18	20	18	18	17	21	18
Surgeons and Specialists care													
Persons served	2	5	5	6	11	4	3	4	7	6	4	6	5
Drugs													
Persons served	134	293	278	302	333	327	238	325	262	247	232	268	270
Percent served	7	14	13	14	16	15	11	15	12	11	11	12	13
Dental care													
Persons served	59	111	88	98	97	61	88	62	43	66	32	130	77
Percent served	3	5	4	4	4	2	4	3	2	3	1	6	3
Hospital care													
Persons served	13	20	14	20	13	14	16	14	11	28	14	23	16

Table 7. - Summary of cost of medical care of the Hamilton County Medical Aid Association
September 1942 - August 1943

Months	Total Approved Bills	Total Amount Paid	Percent Paid	Approved charges per Family
1942				
September	$2,526.95	$1,577.50	62	$6.38
October	3,713.00	1,890.91	51	8.27
November	3,310.10	1,930.87	51	7.24
December	4,184.15	1,956.24	47	9.04
1943				
January	$3,970.00	$1,977.06	50	$8.48
February	3,703.10	2,014.57	54	7.76
March	3,869.54	2,014.57	52	8.11
April	3,479.00	1,998.58	57	7.29
May	3,539.80	1,918.73	54	7.42
June	4,172.35	2,017.38	48	8.72
July	3,315.50	1,862.96	56	6.93
August	4,723.25	2,027.04	42	9.88
Total	$44,506.74	$23,186.41	52	$95.52

Table 8. Age of head by size of family

(53 sample families)

Age Groups	No.	Size of family							
		2	3	4	5	6	7	8	Average
Under 35	16	4	7	1	3	1	-	-	3.37
35 - 44	10	1	4	1	-	1	3	-	4.50
45 - 54	12	1	3	3	2	2	-	1	3.50
55 - 64	5	3	2	-	-	-	-	-	2.40
65 and over	1	-	1	-	-	-	-	-	3.00
N.A.	9	-	3	3	2	-	1	-	4.22
Total	53	9	20	8	7	4	4	1	3.87

Table 9. Age composition of 53 families

Age Groups	Number			Percent		
	Male	Female	Total	Male	Female	Total
Under 5	17	10	27	8.4	5.0	13.4
5 - 9	12	12	24	5.9	5.9	11.9
10 - 14	7	15	22	3.5	7.4	10.9
15 - 19	11	9	20	5.4	4.4	9.9
20 - 24	2	7	9	1.0	3.5	4.4
25 - 29	11	12	23	5.4	5.9	11.4
30 - 34	4	7	11	2.0	3.5	5.4
35 - 39	4	5	9	2.0	2.5	4.4
40 - 44	5	7	12	2.5	3.5	5.9
45 - 49	7	5	12	3.5	2.5	5.9
50 - 54	6	7	13	3.0	3.5	6.4
55 - 59	2	1	3	1.0	.5	1.5
60 - 64	3	2	5	1.5	1.0	2.5
65 - 69	1	-	1	.5	-	.5
70 - 74	-	-	-	-	-	-
75 and over	-	-	-	-	-	-
N. A.	9	2	11	4.4	1.0	5.4
Total	101	101	202	50.0	50.0	100.

Table 10. Percent distribution of rural farm population 1940 - Hamilton County, Nebraska, and 53 sample families - by age and sex

	Hamilton County, Nebraska			53 sample families		
	Male	Female	Total	Male	Female	Total
Under 5	4.2	3.7	7.9	8.4	5.0	13.4
5 - 9	4.2	4.5	8.7	5.9	5.9	11.9
10 - 14	5.6	4.6	10.3	3.5	7.4	10.9
15 - 19	5.7	4.8	10.5	5.4	4.4	9.9
20 - 24	4.3	3.3	7.6	1.0	3.5	4.4
25 - 29	3.4	3.3	6.7	5.4	5.9	11.4
30 - 34	3.2	2.8	6.1	2.0	3.5	5.4
35 - 39	3.1	2.9	5.9	2.0	2.5	4.4
40 - 44	2.8	3.7	6.5	2.5	3.5	5.9
45 - 49	3.5	3.3	6.9	3.5	2.5	5.9
50 - 54	4.1	3.4	7.5	3.0	3.5	6.4
55 - 59	3.4	2.7	6.1	1.0	.5	1.5
60 - 64	1.0	1.6	3.5	1.5	1.0	2.5
65 - 69	1.4	1.2	2.6	.5	-	.5
70 - 74	1.0	.5	1.4	-	-	-
75 and over	.9	.8	1.7	-	-	-
N. A.	-	-	-	4.4	1.0	5.4
Total	52.8	47.2	100.	50.0	50.0	100.

Table 11. Net cash income by size of unit, tenure status, and FSA assistance, 53 sample families

Income Groups	No.	Acres in Units					Tenure 2/				
		Less than 100	100-199	200-299	300 & over	N.A. 1/	O	P.O.	T.	N.A.	FSA Borrowers
Minus	2	-	2	-	-	-	-	-	2	-	1
Less than $250	12	1	2	6	1	2	-	1	10	1	7
$251 -350	14	1	8	4	-	1	-	2	10	2	5
$351 -450	8	-	3	3	1	1	-	1	6	1	1
$451 -550	5	1	3	1	-	-	-	-	4	1	2
$551 and over	12	-	5	3	4	-	1	1	8	2	2
Total	53	3	23	17	6	4	1	5	40	7	18

1/ Not ascertainable

2/ Owner - O. Part-owner -P.O. Tenant -T.

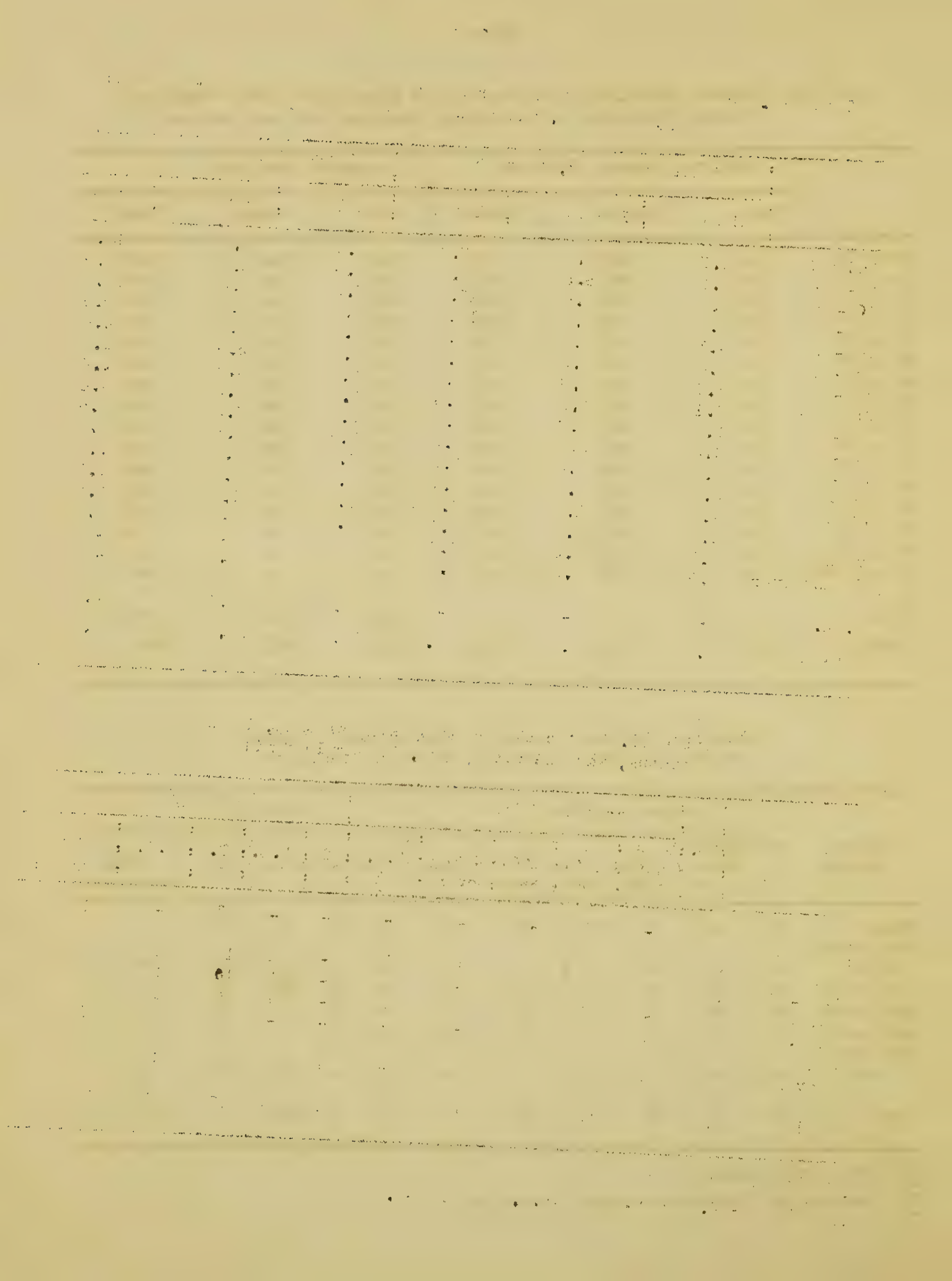


Table 12. Net cash income and size of family,
(53 sample families)

Size of family (Persons)	No.	Average		Number of families with incomes of				
		Per Family	Per Person	Zero	Less than $250	$251-350	$351-450	$451-550	$551 and over
2	9	$403.67	$201.84	-	3	1	3	-	2
3 or 4	30	482.20	149.13	1	7	7	4	4	7
5 or 6	9	281.44	47.79	1	2	4	1	-	1
7 or more	5	594.20	84.88	-	-	2	-	1	2
Total	53	$444.96	$116.75	2	12	14	8	5	12

Table 13. Net cash income by gross income
(53 sample families)

Net cash income groups	No.	Gross cash income					Average gross cash
		Less than $600	$600 - $999	$1,000 - $1,999	$2,000 and Over	N. A.	
Minus	2	-	1	1	-	-	$825.50
Less than $250	12	1	7	1	-	3	801.44
$251-350	14	4	3	2	1	4	893.10
351-450	8	-	5	2	1	-	1122.62
451-550	5	-	2	1	-	2	860.33
$551 and over	12	-	2	1	2	7	2591.80
Average net income		$254.60	$311.80	$354.75	$1097.00	$553.00	
Number	53	5	20	8	4	16	

Table 14. Value of health services to member families by types of service 53 sample families

Types of service	No. families receiving service	Value of services in dollars									
		Total	Average per family	None	1-10	10-19	20-29	30-39	40-49	50-74	75 &
All types	49	4,554	85.92	4	2	4	4	4	2	10	23
General Practice	46	2,866	54.08	7	3	7	7	2	5	7	15
Surgery	4	328	6.09	47	-	-	-	-	-	1	3
Hospital	16	590	11.13	37	2	3	1	-	6	2	2
Dentist	29	387	7.30	24	16	7	3	2	-	1	2
Drugs	41	383	7.22	12	26	10	3	1	-	1	-

Table 15. Value of service by amount of family contribution, 53 sample families

Amount of family contribution	Families		Value of service in dollars								
	No.	Percent	Average	No service	25 or Loss	26-57	58-75	76-100	101-150	151-200	200 &
$10	7	13.2	76	-	-	2	2	1	2	-	-
11 - 20	18	34.0	118	1	1	3	2	2	2	4	3
21 - 30	13	24.5	67	1	1	4	2	2	3	-	-
31 - 40	6	11.3	32	2	1	2	-	-	1	-	-
41 - 50	3	5.7	44	-	2	-	-	-	1	-	-
51 - 57	6	11.3	118	-	1	1	2	-	-	1	1
All families	53	100.	86	4	6	12	8	5	9	5	4

Table 16. General practice health services by amount of contribution, 53 sample families

Amount of family contribution	No. of families	No. families receiving service	Value of service in dollars: Average	No service	10 or less	11-25	26-40	41-57	58-75	76-100	Over 100
10	7	7	65	-	-	2	-	1	1	1	2
11-20	18	17	72	1	-	4	3	3	-	1	6
21-30	13	10	42	3	-	2	1	2	3	1	1
31-40	6	4	26	2	1	-	2	-	-	1	-
41-50	3	2	32	1	1	-	-	-	-	1	-
51-57	6	6	54	-	1	1	1	1	1	1	1
All families	53	46	54	7	3	3	7	7	5	5	10

Table 17. Surgical service by amount of contributions, 53 Sample families

Amount of family contribution	No. of families	No. families receiving service	Average	Value of service in dollars: No service	10 or less	11-25	26-40	41-57	58-75	76-100	101-150	over 150
10	7	-	-	7	-	-	-	-	-	-	-	-
11-20	18	2	9	16	-	-	-	-	1	1	-	-
21-30	13	-	-	13	-	-	-	-	-	-	-	-
31-40	6	-	-	6	-	-	-	-	-	-	-	-
41-50	3	-	-	3	-	-	-	-	-	-	-	-
51-57	6	2	28	4	-	-	-	-	1	1	-	-
All families	53	4	6	47	-	-	-	-	2	2	-	-

Table 18. Hospital service by amount of contribution 53 Sample families

Amount of family contribution	No. of families	Families receiving service: No.	Percent	Average	Value of service in dollars: No service	10 or less	11-25	26-40	41-57	58-75	76-100	101-150	Over 150
10	7	1	6.2	1	6	1	-	-	-	-	-	-	-
11-20	18	7	43.8	19	11	1	-	2	2	-	2	-	-
21-30	13	5	31.2	10	8	1	1	3	-	-	-	-	-
31-40	6	-	-	-	6	-	-	-	-	-	-	-	-
41-50	3	1	6.2	4	2	-	1	-	-	-	-	-	-
51-57	6	2	12.5	16	4	-	-	-	2	-	-	-	-
All families	53	16	100.	11	37	3	2	5	4	-	2	-	-

UNITED STATES DEPARTMENT OR AGRICULTURE
FARM SECURITY ADMINISTRATION

Dear Friend:

Rural people are increasingly interested in health problems. You have had personal experience in an organized program of rural medical care. For that reason we are asking a favor of you. We need information about your medical care experience.in the calendar year, 1944. Please furnish to the best of your knowledge the following information, and return at once in the self addressed envelop. It will not be necessary to sign the report. Thank you.

For the Year January 1, 1944 to December 31, 1944

Age *	No. in Family	Cost of Major Operations	Cost of General Dr. Care	Cost of Drugs	Cost of Hospital Care	Cost of Dental Care
0 - 5	_____	$_____	$_____	$_____	$_____	$_____
6 -12	_____	$_____	$_____	$_____	$_____	$_____
13-21	_____	$_____	$_____	$_____	$_____	$_____
22-50	_____	$_____	$_____	$_____	$_____	$_____
51-over	_____	$_____	$_____	$_____	$_____	$_____
Total	_____	$_____	$_____	$_____	$_____	$_____
Amount of Total Yet to be Paid		$_____	$_____	$_____	$_____	$_____

*A Family includes all persons you are financially responsible for, whether at home or away.

Signed _____
County FSA Supervisor

HAMILTON COUNTY HEALTH ASSOCIATION SURVEY
(The Period Sept. 1942 to Aug. 1943 Inclusive)

Name _____ Community _____

1. Who persuaded you to join the Association?
   Person _____ Organization _____
2. Did you change doctors when joining the association? _____
3. Who was your doctor when in the association? _____
   How often did you go to another doctor? _____
4. Where did you go for hospital care before you joined the association? _____
   None _____ Aurora _____ Other _____ (Name of town)
5. How many meetings held by the association did you attend? _____
6. Were medical services given promptly? ____ Explain _____
7. How did the quality of services you received compare with those you were getting before joining the association? _____
   (a) Poorer _____ (b) The same _____ (c) Better _____
8. Did you receive as much medical care as you expected to receive? _____
9. What other services did you think the association should have given? _____
   (1) _____ (2) _____
   (3) _____ (4) _____
10. What changes should have been made in the association? _____
    (1) In services rendered _____
    (2) In financing _____
11. Did members have enough voice in running the association _____
12. Who ran the program? _____
13. What part did you have in helping to plan and develop the program? _____
    _____
14. Do you think the association should have reached more people? _____
15. What was your chief difficulty in securing medical care under the program?
    _____
    _____
16. What was the chief advantage or benefit you received from the association?
    _____
    _____
17. What do you think was the chief purpose of the program? _____
    _____
18. Was the money you put into the plan a good investment? _____
    _____